

NUCLEAR GAUGES

Nuclear Gauges

Nuclear Regulatory Commission

The Nuclear Regulatory Commission (NRC) is the Federal Agency responsible for ensuring the safety of certain radioactive materials, including the sources for INDOT's nuclear density gauges. These nuclear gauges provide an inexpensive, yet highly reliable and accurate method of measuring the thickness, density, or make-up of a wide variety of material surfaces.

The operation of the gauges you use must comply with NRC regulations. All gauges must be registered and approved for use before being put into operation. Once a gauge is approved, the NRC issues a license to the company who will be using it. Once the gauge is in place and being used, test must be performed regularly to ensure that the radioactive source is secure within its capsule and is not leaking out (called a leak tests). Every six month, INDOT must arrange for an approved organization to perform these leak tests. If the source is not leaking, you will receive a document to that effect. The NRC will normally conduct a compliance inspection once every two years to see if the tests have been performed on schedule, and to ensure that other license conditions and NRC regulations are being followed.

Before storing the gauge, make sure the source is in the "safe" position. Lock the source and shutter in place. Never modify or change the source holder, shielding or safety interlocks without NRC approval. Store the gauge in a locked, fire-resistant container. Identify the container in case the gauge is lost, damaged, or misplaced. Post a radiation warning sign outside the storage area.

When taking the gauge to and from a job site, place it in its storage container and keep it in an unoccupied part of the vehicle, such as the locked trunk or secure it to an integral part of the vehicle. Lock the vehicle if the gauge is in it. A shipping paper must be carried in the vehicle. Such papers must contain certain information and be stored within easy reach of the driver of the vehicle. The shipper must label and mark each package used for transporting the gauge. Each shipper must maintain on file the result of test conducted on the transport package and the sealed sources contained in the gauges. The package must be blocked or braced to prevent movement of the package within the vehicle.

For disposal, return gauges to the supplier or to a waste disposal organization approved by NRC. When sending the gauge to the supplier, package it according to the Federal regulations on the transport and packaging of radioactive materials.

See the Nuclear Regulatory Commission Section for further information

Spill Response

Hazardous material releases, oil spills, fish/animal kills and radiological incidents must be reported to Office of Emergency Response, IDEM **(888) 233-7745**. This should occur as soon as action has been taken to either contain/control the extent of the release, or protect persons, animals or fish from harm or further harm. Appropriate response actions for spills occurring on project sites, in order:

1. Identify the spilled material from a safe distance,
2. Contain the spilled material or block/restrict its flow using absorbent booms/pillows, dirt, sand or by other available means,

3. Cordon off the area of the spill,
4. Deny entry to the cordoned off area to all but response personnel, and
5. Contact OER/IDEM then Operations Support.

See the Spill Response Section of the Laws and Regulations Section for further information